REMARKS

Claims 1-25 are pending in this application. By this Amendment, the specification and claim 8 are amended and claims 17-25 are added. The specification and claim 8 are amended for clarity (and not for reasons related to patentability).

The Office Action rejects claims 1-16 under 35 U.S.C. §102(e) by U.S. Patent 5,722,0622 to Nakanishi et al. (hereafter Nakanishi). The rejection is respectfully traversed.

Independent claim 1 recites a loop apparatus having a plurality of gain stages and a plurality of feedback loops that cancel an undesired offset of the resulting amplified signal. Each feedback loop connects to an output port and the input port of a corresponding one of the gain stages, such that each gain stage is connected to a corresponding feedback loop that cancels the undesired offset of its corresponding gain stage.

Nakanishi does not teach or suggest all the features of independent claim 1. That is, the Office Action broadly references Nakanishi's elements 13a-13b or 17a-17b with the claimed plurality of gain stages and broadly references elements LP1 or LP2 with the claimed plurality of feedback loops. The Office Action asserts that LP1 or LP2 eliminate fading. However, loop LP1 relates to a digital stage (Figure 7) and is not connected to an output port and an input port of a corresponding one of the claimed gain stages. Rather, the loop LP1 is connected between the data processing control unit 31 and an IF stage for digital 30D. Still further, the loop LP2 for an RSSI signal is output from the IF stage for analog 30A. As appears to be shown in Figure 7, the RSSI signal appears to be input to the LNA 3. Accordingly, these alleged sections do not

suggest a plurality of gain stages and a plurality of feedback loops where each feedback loop connects to the output port and the input port of a corresponding one of the gain stages such that each gain stage is connected to a corresponding feedback loop that cancels the undesired offset of its corresponding gain stage. Nakanishi's RSSI signal does not output from an output port of the gain stage so as to cancel an undesired offset of its corresponding gain stage (of the plurality of gain stages).

Additionally, applicants respectfully disagree that the alleged feedback loops of Nakashini cancel an undesired offset of the resulting amplified signal. The Office Action asserts that the allegedly claimed feedback loops eliminate fading. However, this does not teach or suggest the specifically claimed features of independent claim 1. Thus, independent claim 1 defines patentable subject matter.

Each of independent claims 7 and 8 define patentable subject for at least similar reasons as independent claim 1. Additionally, independent claim 8 recites an amplification unit that receives and amplifies a signal, wherein the amplification unit includes the claimed plurality of gain stages and the claimed plurality of feedback loops. Independent claim 8 further recites a mixer that demodulates the amplified signal by mixing the amplified signal with a local oscillation signal to form a demodulated baseband signal.

Nakashini does not teach or suggest these features of independent claim 8. For example, the present specification describes that in order to perform gain control, the LNA 10 (Figure 1) may be replaced with an automatic gain amplifier (see Figure 2A). Embodiments of the present

invention may be seen in Figure 3A that form an amplification unit, for example. That is, Figure 3A shows one embodiment of a plurality of gain stages and a plurality of feedback loops provided within an amplification unit (similar to LNA 10 shown in Figure 1). Nakashini's alleged features are subsequent to the LNA 3 and do not relate to the subject matter of the present application. More specifically, Nakashini's does not teach or suggest the claimed amplification unit that includes the claimed plurality of gain stages and the claimed plurality of feedback loops as recited in independent claim 8. Furthermore, Nakashini does not teach or suggest the claimed mixer that demodulates the amplified signal. The Office Action appears to refer to elements 14 and 21 in Figure 4 and 6. However, the Office Action then relies on Figure 7's loops LP1 and LP2 to show the claimed feedback loops. Thus, the Office Action fails to make a proper connection between Nakashini's different figures. There is no suggestion for the claimed mixer in relation to the amplification unit as recited in independent claim 8. Thus, independent claim 8 defines patentable subject matter for at least this reason.

For at least the reasons set forth above, each of independent claims 1, 7 and 8 define patentable subject matter. Each of the dependent claims depends from at least one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims also recite features that further and independently distinguish over the applied references. For example, dependent claim 17 (and similarly dependent claim 21 and 25) recites that the resulting amplified signal comprises an analog signal. It is respectfully submitted that Nakashini does not teach or suggest these features. Furthermore, the

allegedfeedback loop LP1 shown in Figure 7 relates to digital signals and therefore Nakashini clearly does not show these features. Additionally, dependent claim 18 recites a mixer that demodulates the resulting amplified signal and forms a demodulated baseband signal. For similar reasons as set forth above with respect to independent claim 8, Nakashini does not teach or suggest the claimed mixer in combination with the other features of independent claim 1. Even still further, dependent claim 19 recites an analog-to-digital converter that converts an analog signal corresponding to the resulting amplified signal to a digital data stream. See also dependent claim 9. Nakashini does not teach or suggest the claimed analog-to-digital converter in combination with the other features such as the claimed mixer, plurality of gain stages and plurality of feedback loops. Thus, each of these dependent claims define patentable subject matter for at least these additional reasons.

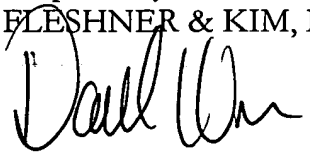
For at least the reasons set forth above, each of claims 1-25 defines patentable subject matter. Withdrawal of the outstanding rejection is respectfully submitted.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-25 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **David C. Oren**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



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